from the plug *c* to the peg *h*, for the purpose of keeping the plug back. When the assistant has put in the tube, across the ground, he pushes forwards the handle *f*: this causes the wire *d* to project beyond the cone *b*, as shewn by dotted lines; and as soon as the weaver has taken hold of the wire, the boy lets go the handle *f*, and pulls back the tube, ready to receive the previous wire. Fig. 4 shews the tube *e* and handle *f* separate. Fig. 5 shews the end *i* through which the spring passes. The parts of which this figure consists are connected in the following way. The spring is first made fast to the plug *c*, this latter having previously been firmly fixed in the tube *e*; the piece *i* is then to be slid on the spring, and this latter is then to be made fast to the stopper *h*. The length of the spring is to be so adjusted, that when in a state of rest the end of *e* shall be in close contact with the shoulder of *i*, and shall be capable of extending the whole length of the space *g*, fig. 3, without straining.

No. II.

LOOM FOR WEAVING SILK TISSUE.

The SILVER ISIS MEDAL *and* TEN POUNDS *were presented to Mr. J.* DOVE, 9 *Surat Place, Green Street, Bethnal Green Road, for his improved Apparatus for Weaving Silk Tissue.*

ABOUT four years ago (see Vol. L.), the Society rewarded Mr. Rooke for improving the jacquard loom, by adding a small one to it, and thereby saving many repetitions of

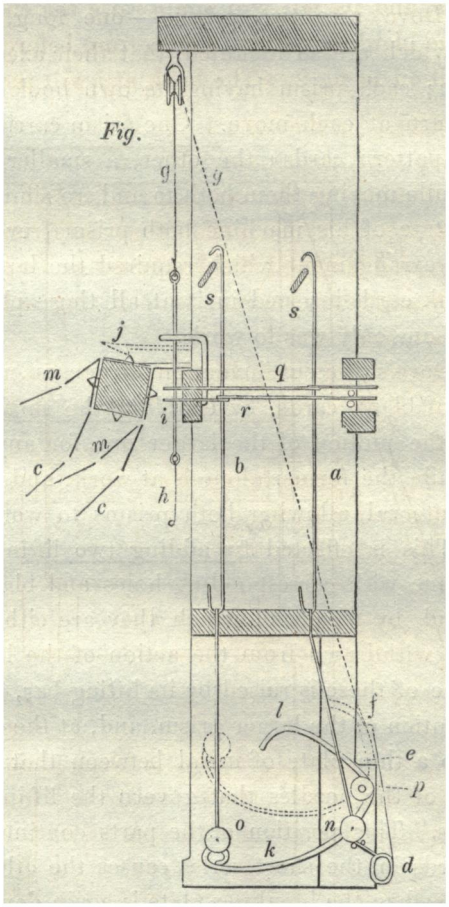
the cards used in making the plain work interposed between the pattern. Two years afterwards (see Vol. LI.), Messrs. Webb and East were rewarded for a further application of the double loom.

Mr. Dove uses two prisms — one long, the other short — which are so mounted, that their axes are in the same line; each prism having its own hook to cause a quarter-turn at each move. One prism carries the large band of pattern cards; the other, a smaller band; the same treadle moving them both to and fro simultaneously. In this state of his machine both prisms revolved together, an arrangement which required the large band to have blank cards inserted in it at all those places where the small one only was to work.

Mr. Dove's present invention dispenses entirely with the use of blank cards, by enabling the small prism to suspend the motion of the larger one for any given interval while the former alone is at work, and, at the end of that interval, allowing both prisms to work together again. This is effected by adding two lifting hooks to the machine with corresponding holes and blanks in the small band, by means of which they are either brought within or withdrawn from the action of the lifting bars. When one of these is raised by its lifting bar, it suspends the revolution of the larger prism, and, at the same time, brings up a thin plate of metal between that prism and the ends of the needles that govern the lifting hooks of the lashes. This position of the parts continues till one of the cards in the short series causes the other hook to be raised, when the blanking plate is again depressed and the large prism is set in motion.

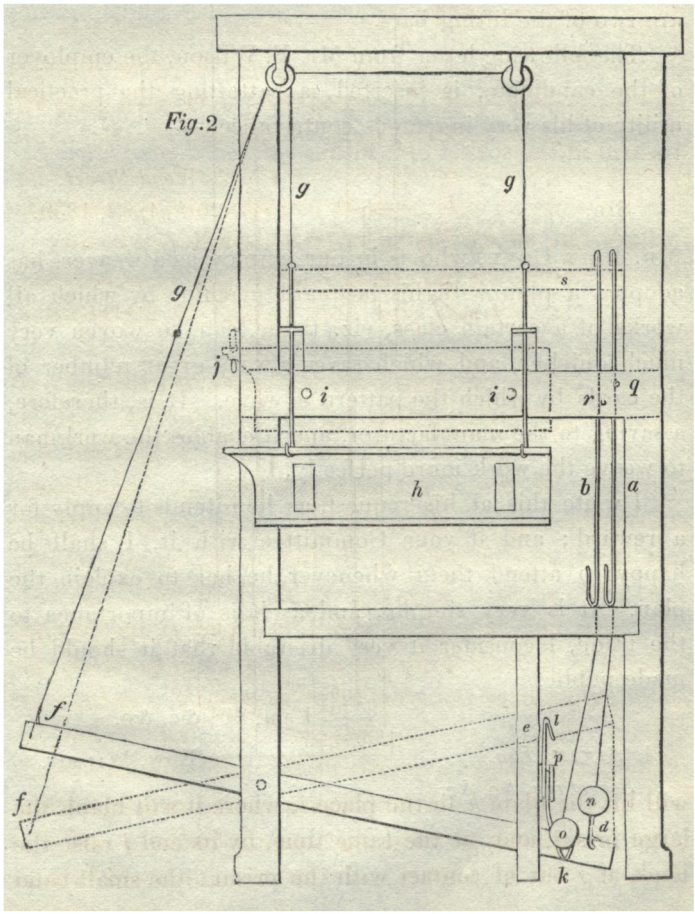
The annexed figures will shew how this is effected. *a* and *b* are the two additional hooks; *c c*, fig. 1, is part

of the small band. When the hook *a* is raised, it lifts the lever *d*, and lodges it on the step *e*. This action depresses the end *f* to the dotted place *f*, fig. 2; and that by its string, which is tied to the two strings *g g g*,



will lift the plate *h* to the place *i*, where it will blank the large prism, and, at the same time, by its end *j* raise the hook at *j* out of contact with the prism: the small band

only will then be at work, and, after the proper space, it will cause the hook *b* to go up; and this latter being tied to the lever *k*, fig. 1, will raise it to the dotted place. In so doing, its other end *l* will then push the lever *d* off its lodgment *e*, and its fall will again raise the end *f*, which will let the blanking-screen *h* drop from before the prism to its position in fig 2. The hook at *j* will then come in



contact with the large prism, and again cause it to revolve: *m m*, fig. 1, is part of the large band; *n* is a weight to cause the descent of the hook *a*, and which, by its lateral hanging, always causes the lever *d*, when raised, to go on the step *e*: *o* is a similar weight to secure the descent of the hook *b* and its lever *k*: *p* is the fulcrum on which the bent lever *k l* moves: *q* and *r* are the two needles by which the hooks *a* and *b* are governed: *s s* are two of the lifting bars.

The following letter from Mr. E. Wilson, the employer of the candidate, is inserted, as attesting the practical utility of his very ingenious contrivance:—

Wood Street,
SIR, *20th April*, 1839.

MR. JOHN DOVE, who is in our employ as a weaver, has adopted a plan with his jacquard machine by which all works of a certain class, viz. tissue, can be woven very much quicker, and which saves a very great number of the cards by which the pattern is wove. It is, therefore, a saving to the manufacturer, and it enables the workman to weave the work more perfectly.

I write this at his request, as he intends to apply for a reward; and if your Committee wish it, I shall be happy to attend them whenever he has to explain the plan. It is very simple; and as it is of importance to the trade, I consider it very desirable that it should be made public.

I am, Sir, &c. &c.

A. AIKIN, Esq. EDW. WILSON.
Secretary, &c. &c.